# DRW-0804P

## DVD±R/RW Drive

### Dual Format

User Guide

**E1533**

**First Edition V1**

**February 2004**

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# Notices

## Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**WARNING!** The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

## Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

**This class B digital apparatus complies with Canadian ICES-003.**

# ASUS contact information

## ASUSTeK COMPUTER INC. (Asia-Pacific)

| | |
|---|---|
| Address | 150 Li-Te Road, Peitou, Taipei, Taiwan 112 |
| Telephone | +886-2-2894-3447 |
| Web site | www.asus.com.tw |

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|---|---|
| Telephone (MB/Component) | +886-2-2890-7121 (English) |
| (Notebook) | +886-2-2890-7122 (English) |
| (Server/PC) | +886-2-2890-7123 (English) |
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| Address | 44370 Nobel Drive, Fremont, CA 94538, USA |
| Fax | +1-510-608-4555 |
| E-mail | tmd1@asus.com |
| Web site | usa.asus.com |

### *Technical Support*

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|---|---|
| Telephone (General) | +1-502-995-0883 |
| (Notebook) | +1-510-739-3777 |
| Support fax | +1-502-933-8713 |
| Support e-mail | tsd@asus.com |

## ASUS COMPUTER GmbH (Germany and Austria)

| | |
|---|---|
| Address | Harkort Str. 25, D-40880 Ratingen, Germany |
| Telephone | +49-2102-95990 |
| Fax | +49-2102-959911 |
| Online contact | www.asuscom.de/sales |

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| Telephone | +49-2102-95990 |
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| Online support | www.asuscom.de/support |
| Web site | www.asuscom.de/news |

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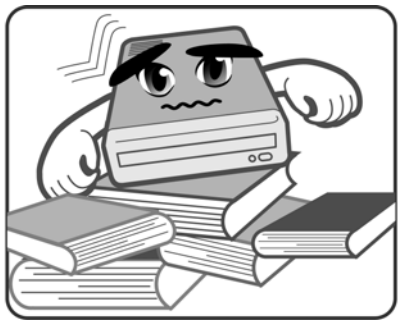
| Fax | +9714-283-1775 |
| Web site | www.ASUSarabia.com |

# Safety Information

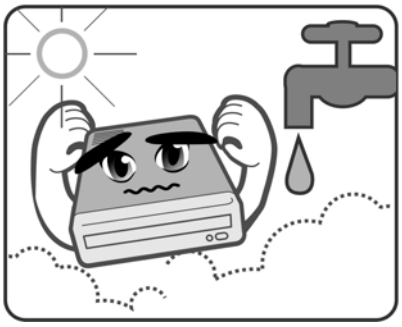
Observe the following precautions before installing and using the drive!

## Installation Notices

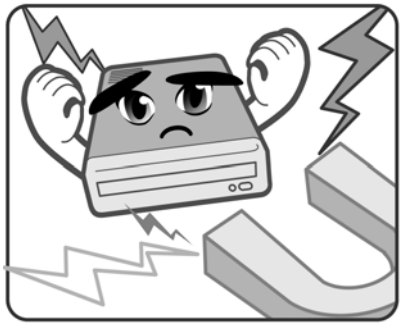
Do not place this device in an unstable position, or on vibrating surfaces.



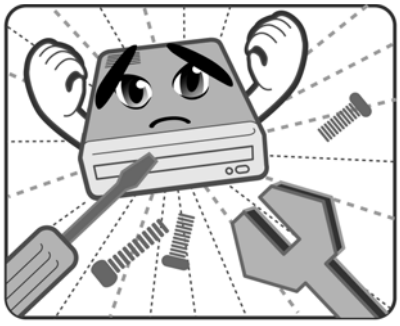
Do not place this device under direct sunlight, or in humid or damp places.



Do not use or place this device near magnetic fields, televisions, or radios to avoid electronic interference that affects drive performance.



Do not attempt to disassemble or repair the drive. Opening the drive may result to exposure to laser radiation.



# Safety Information

## Using the Device

- Use  of any controls, adjustments, or procedures other than those specified in this manual may result to hazardous radiation exposure.
- Do not attempt to disassemble the drive.
- Do not move the device from a cold to a warm or hot environment. Drastic change of temperature is harmful to the device.
- Before moving or uninstalling the drive, remove disc from it, if any.
- Prevent liquids or any metal to get into the device. If this situation occurs, contact your retailer for help.
- Do not use any evaporating solvents to clean the device. If you accidentally sprayed any solvent on the device, use a clean cloth to wipe it. You may also use a neutral cleaner to dilute the solvent to easily wipe it from the device.
- Try not to interrupt the supply of power while the device is in reading or writing mode.
- Do not place damaged or warped discs inside the device. A warped disc may break while in use and damage the device.
- Do not place discs into the device immediately if they came from a cold environment, specially during cold seasons. Wait until the discs have reached room temperature.

## Conventions used in this guide

To make sure that you perform certain tasks properly, take note of the following symbols used throughout this manual.

**WARNING/DANGER:** Information to prevent injury to yourself when trying to complete a task.

**CAUTION:** Information to prevent damage to the components when trying to complete a task.

**IMPORTANT:** Information that you MUST follow to complete a task.

**NOTE:** Tips and additional information to aid in completing a task.

# Package Contents

Upon opening your **ASUS DRW-0804P** drive package, check if all the following items are present and in good condition. If any of the items is damaged or missing, contact your retailer immediately.

- ASUS DRW-0804P internal DVD±R/RW (IDE interface)
- IDE cable
- Mounting screw set
- Audio cable
- Emergency eject pin and instruction slip
- User guide
- Multi-language quick installation guide
- Bundled software CD

The above items are available in retail boxes only.

# Welcome!

**Thank you for buying the ASUS DRW-0804P Drive!**

Read the instructions and important information in this manual for proper use and installation of this device.

# Product introduction

## Specifications

The DRW-0804P has the following specifications.

| | | |
|---|---|---|
| **Write Speeds** | | 8X/6X/4X/2.4X on DVD+R<br>4x/2.4X on DVD+RW<br>8X/6X/4X/2X/1X on DVD-R<br>4X/2X/1X on DVD-RW<br>24X/16X/8X/4X on CD-R<br>24X/16X/10X/4X on CD-RW |
| **Maximum Read Speeds** | | 12X on DVD-ROM<br>40X on CD-ROM |
| **Interface** | | Enhanced IDE/ATAPI |
| **Data Buffer Size** | | 2 MB |
| **Random Access Time** | | DVD-ROM: 140 ms<br>CD-ROM: 130 ms |
| **Application discs** | | DVD Single/Dual layer discs, DVD+R,<br>DVD+RW, DVD-R, DVD-RW, CD-ROM Mode 1<br>CD-ROM/XA Mode 2 (form 1, form 2)<br>Photo CD (single and multiple session)<br>CD-DA, CD-Extra, CD-Text,<br>CD-R, CD-RW, DVD-RAM |
| **Recording Format** | **DVD-R**<br>**DVD-RW**<br>**DVD+R**<br>**DVD+RW**<br>**CD-R/RW** | DAO, Incremental, Multi-Border Recording<br>Restricted Overwriting<br>Incremental Recording<br>Random Recording<br>DAO, TAO, SAO, Packet Write |
| **OS Compatibility** | | Windows® 98SE/ME/2000/NT/XP |
| **Mounting Orientation** | | Vertical/Horizontal |
| **Dimensions** | | 148 (w) x 42.3 (h) x 198 (d) mm |
| **Mass** | | 1100 g (2.42 lbs) |

Refer to the section “Technical information” on page 22 for detailed specifications.

# Features

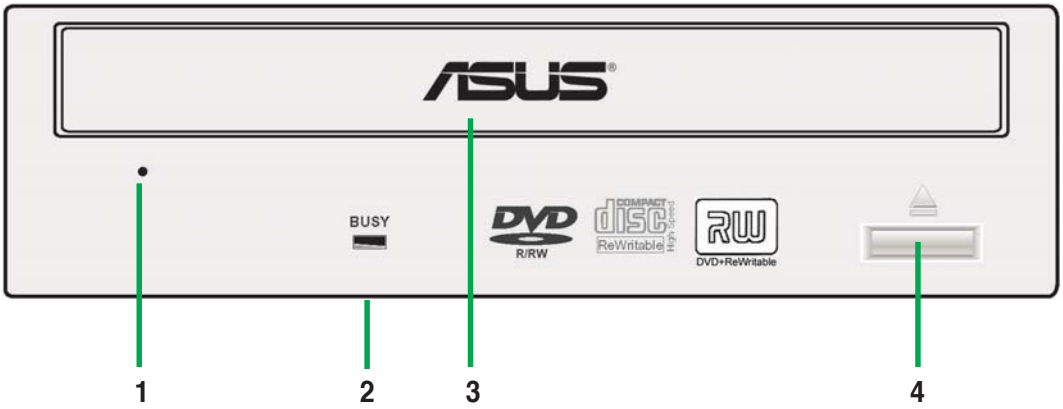
The ASUS DRW-0804P is a DVD±R/RW drive capable of reading data from and writing data in DVD+R/RW or DVD-R/RW formats. The dual compatibility feature of the drive allows you to create DVDs that can be played or read by most DVD-ROM drives and DVD players. This function provides you with flexibility and efficiency in terms of multimedia data storage and sharing.

The drive complies with the Enhanced-IDE Attachment Packet Interface (ATAPI) specification and comes equipped with the latest innovative technologies in DVD recording.

Check out other features of the drive:

- FlextraLink™
- FlextraSpeed™
- Superior stability with DDSS II
- Optical pickup head Liquid Crystal Tilt (LCT) technology
- Compatible with a wide range of disc formats
- Operates on horizontal or vertical mounting
- Supports DAO, TAO, SAO, Packet Write
- Windows® 98SE/ME/2000/NT/XP compatible

# Front panel

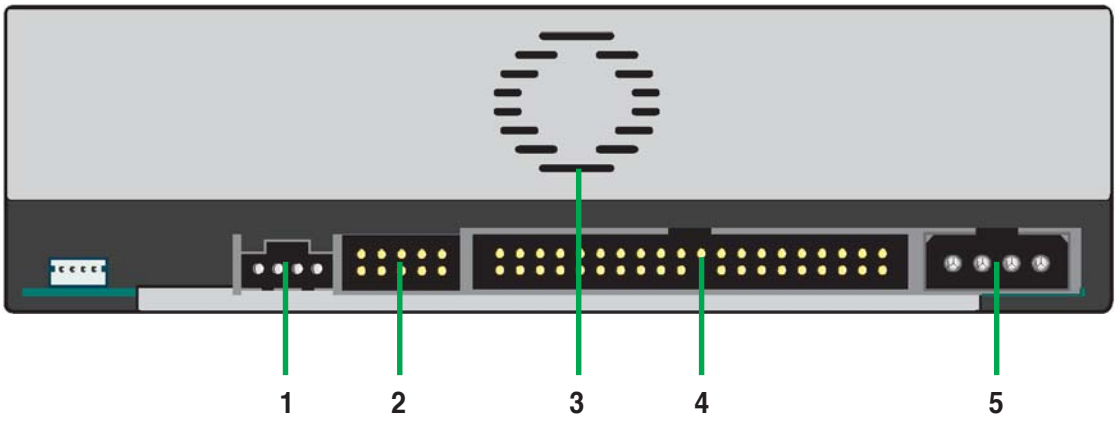



1. **Emergency eject pinhole**
   The Emergency Eject Pinhole allows you to manually eject a disc when the Eject Button does not work due to power failure or software problems. Insert the emergency eject pin or the tip of a paper clip into this hole to manually eject the tray and the disc. Refer to page 20 for details.

   Turn off your computer before using the Emergency Eject Pinhole.

2. **READ/WRITE indicator**
   This LED is lit (Green) when data is being read or written on the disc.
3. **Disc loading tray**
   This tray holds the disc. Open the loading tray by pressing the Eject Button. Place a CD or DVD on the tray with the label side up. Press the Eject Button or push the front part of the tray to load the disc.
4. **Eject button**
   Press this button to eject the tray and load or remove a disc.

# Rear panel




1. **Audio output**
   This connector is for an analog audio output cable. This connector is compatible with “Molex 70553”.

| Pin | Name | Description |
|---|---|---|
| 1 | L | Left channel audio output |
| 2 & 3 | G | Ground |
| 4 | R | Right channel audio output |

2. **Device configuration jumper**
   These pins allow you to select either Master, Slave, or Cable Select mode for the drive. (*Refer to page 14 for the jumper settings*)

| Pin | Name | Switch Status | Description |
|---|---|---|---|
| 1 | MA | ON | Master mode |
| 2 | SL | ON | Slave mode |
| 3 | CS | ON | Cable select mode |
| 4-5 | | | Reserved |

3. **Air vent**
   This air vent allows air intake to maintain ideal drive temperature. Make sure the air vent is not blocked by cables or other objects inside the system.
4. **Host IDE interface**
   This connector is for a 40-pin IDE cable to connect the drive to the IDE interface on the motherboard.
5. **DC input**
   This DC connector is for a 4-pin power cable from the system power supply.

# Installation

## System requirements

Before installing the drive, make sure that your computer system meets the following requirements.

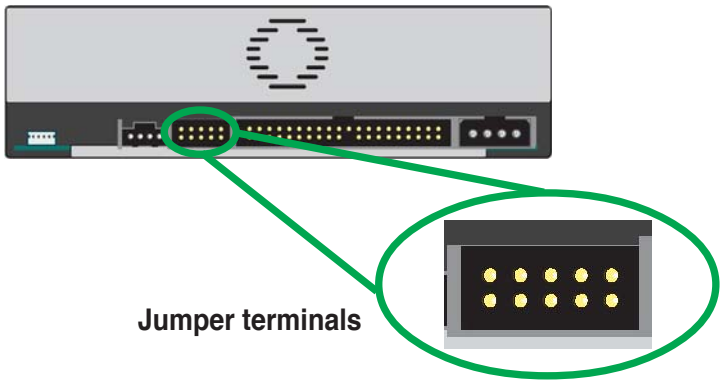
- IBM-compatible Pentium® III 700MHz or Celeron® 700MHz or AMD Duron™ 850 MHz or higher PC
- Windows® 98SE/ME/2000/NT/XP operating system
- At least 64MB RAM (128MB recommended)
- An empty 5.25-inch external drive bay
- HDD empty storage capacity of 100MB or more
  Average seek time: 20ms or less
  Transmission rate: 2 MB/s or more

- Avoid using a hard disk that thermally calibrates during operation.
- Do not insert damaged or warped disc in the drive to avoid potential body injury or damage to the drive.

# Setting the jumper terminals

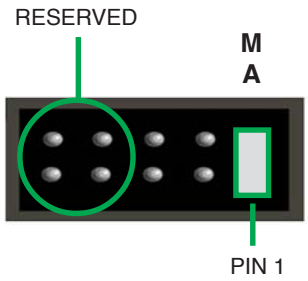
Set the jumpers to configure the device to either master or slave mode before installing it into your computer chassis. The different modes are discussed below. Select your desired mode by placing the jumper cap over the pins.

Put the jumper caps properly over the pins to avoid damage to the drive.



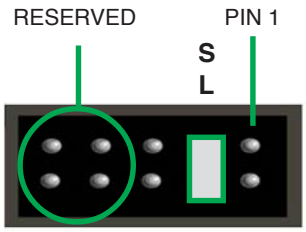

## Master Mode

Cover the two pins labeled MA (see illustration) to set the drive as a secondary master drive. Select this mode if your computer supports four IDE devices. The computer hard drive is set as Primary Master.



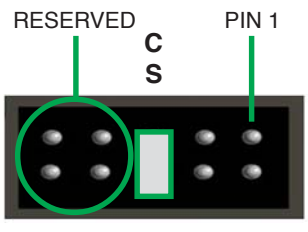

## Slave Mode

Cover the two pins labeled SL (see illustration) to set the drive as a slave device if your computer supports only two IDE devices. If your computer supports four IDE devices, this mode sets your drive as either Primary or Secondary Slave.




## Cable Select Mode

Cover the two pins labeled CS (see illustration) if your computer supports a Cable Select (CSEL) signal. You need an exclusive interface cable for this mode. Refer to your computer manual for details.

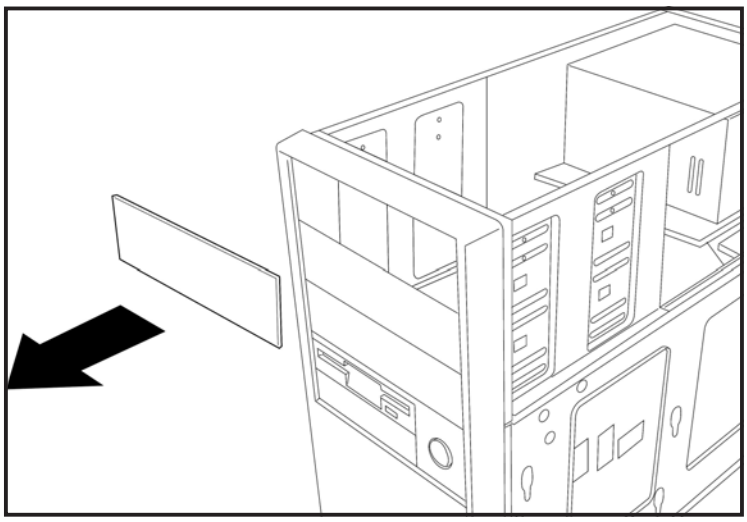


# Installing the device

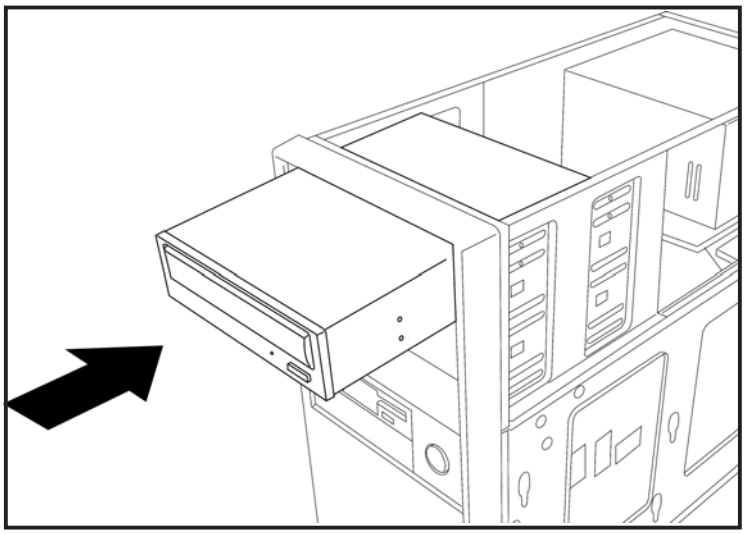
Follow these steps to install the drive into the computer chassis.

Refer to your computer manual for specific instructions on opening the chassis and installing drives.

1. Remove the cover of an empty 5.25-inch external drive bay.

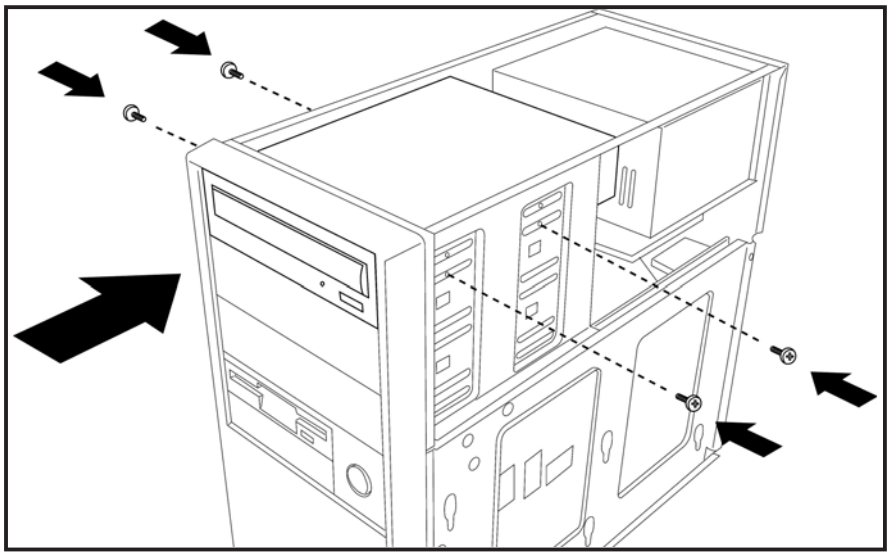


2. Carefully insert the drive into the bay and push it inward until it is flushed to the chassis front panel. The holes on the sides of the drive should align with the holes on the drive bay.



3. Secure the drive with screws that came with the drive package. Use two screws on each side of the drive.

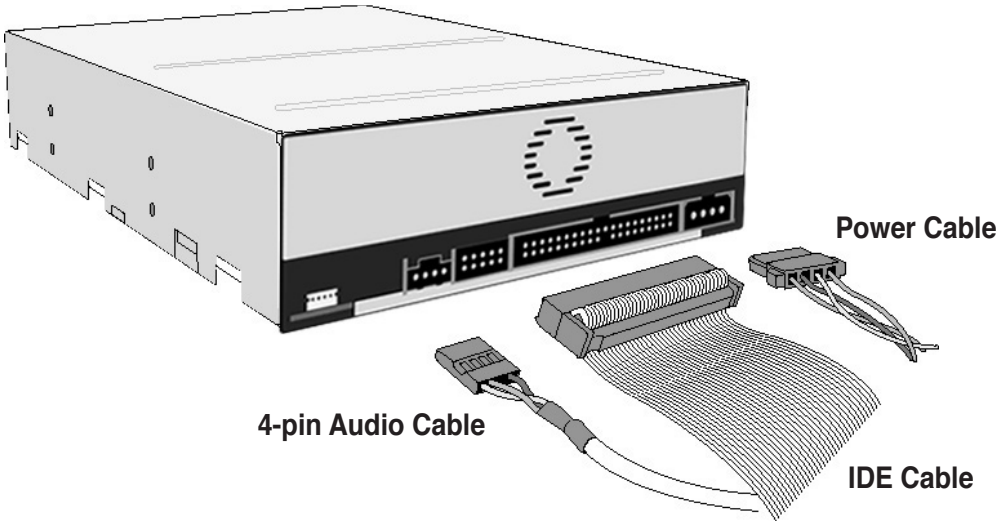
Depending on the space on your chassis, you may need to connect the drive cables before securing the drive into the chassis. For cable connections, proceed to the following section, “Connecting the Drive Cables.”



## Connecting the drive cables

1. Connect the power cable plug to the power connector on the rear panel.
2. Connect the 40-pin IDE cable plug to the IDE connector, matching the red pin stripe on the cable with Pin 1 on the connector.
3. If your computer has a sound card or an onboard audio feature, connect an audio interface cable to the 4-pin analog audio connector on the rear of the drive. Connect the other end of the audio cable to the connector on the sound card or on the 4-pin CD connector on the motherboard.

All the cable plugs are slotted so that they fit in only one orientation. If a plug does not fit in completely, try reversing it. DO NOT use too much force when fitting the cable plugs.

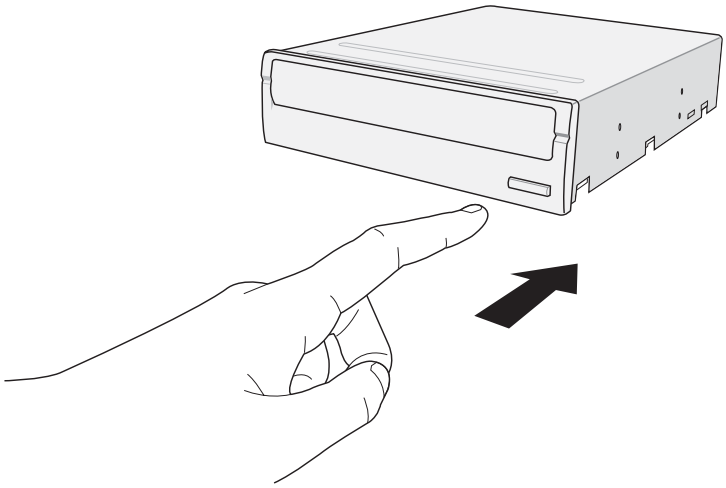



Replace the computer cover according to your computer manual.

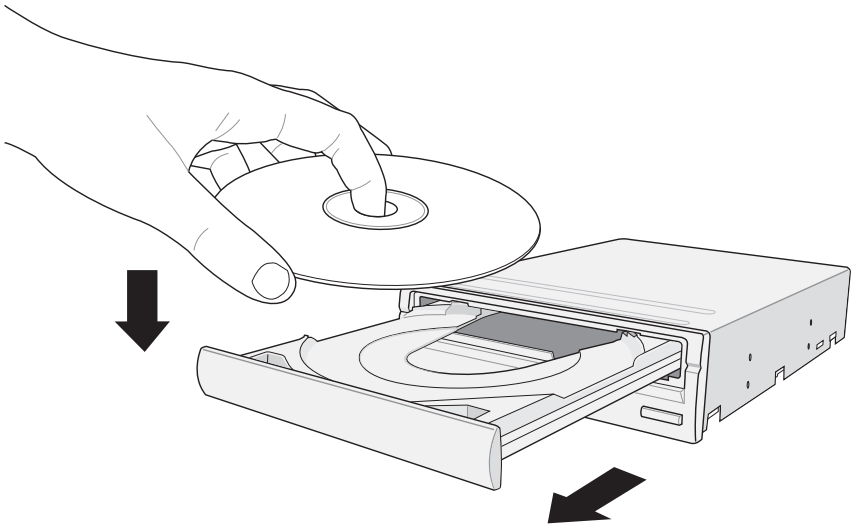
# Drive basics

## Placing a disc into the drive

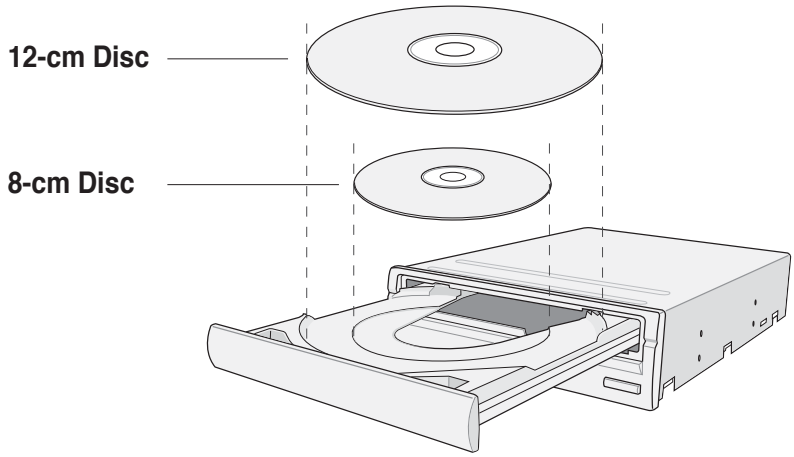
1. Press the eject button on the front of the drive to eject the tray.



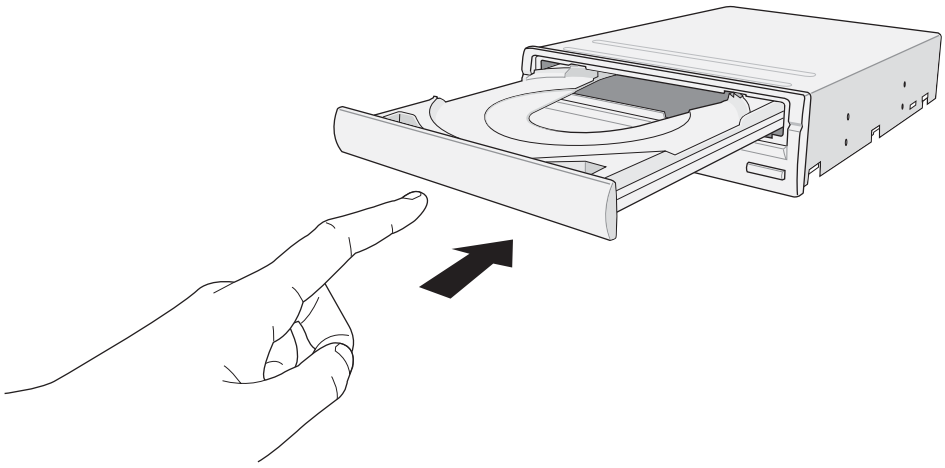
2. When the drive tray ejects out of the drive, place the disc on the tray with the label (printed) side up.



If you are using a 12-cm disc, place it on the outer circular border of the tray. If you are using an 8-cm disc, place it on the inner circular border.




3. Press the drive eject button or lightly push the center of the drive tray to load the tray back into the drive.



## Ejecting a disc from the drive

1. Press the eject button on the front of the drive to eject the tray.
2. Carefully remove the disc from the tray.
3. Press the drive eject button or lightly push the center of the drive tray to load the tray back into the drive.

## Using the emergency eject pinhole

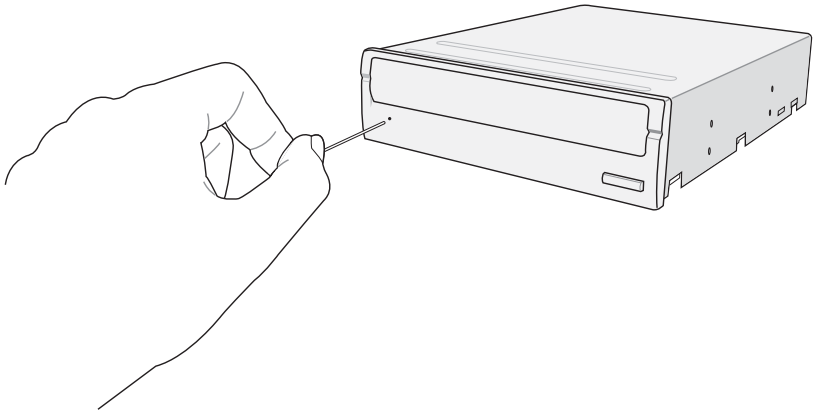
The emergency eject pinhole on the front panel of the drive allows you to manually eject the drive tray and remove a disc from the drive in case:

- the supply of power to the computer is cut due to electrical power outage, or
- the drive malfunctions.

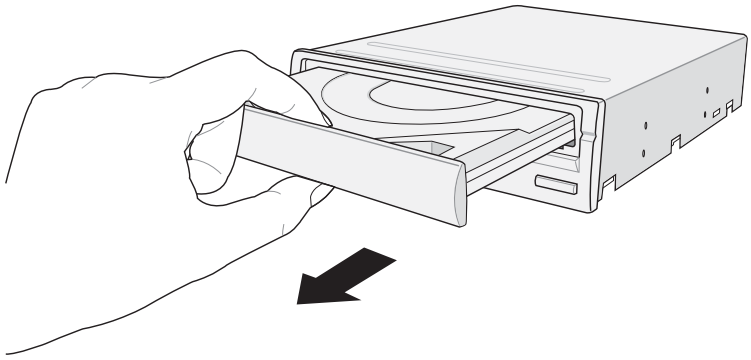
Use the manual method only when the eject button does not work. Turn off your computer before manually ejecting the drive tray.

Follow these steps to eject the drive tray using the emergency pinhole.

1. Insert the Emergency Eject Pin that came with the drive package into the Emergency Eject Pinhole. You may also use a paper clip or any pointed rod small enough to fit into the emergency eject pinhole.



2. Carefully pull the tray out and remove the disc.



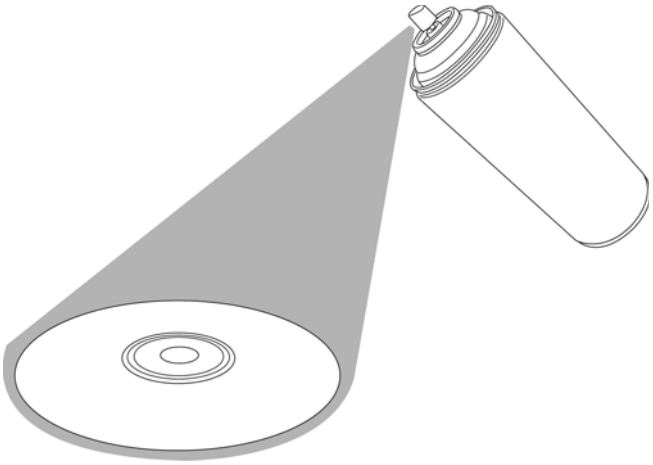
Do not force the tray open. Wait until the eject pin has dislodged the tray to avoid breaking the tray panel.

# Using compact discs

Take note of the instructions in this section when using compact discs. These instructions will help you avoid damaging the discs and your drive.

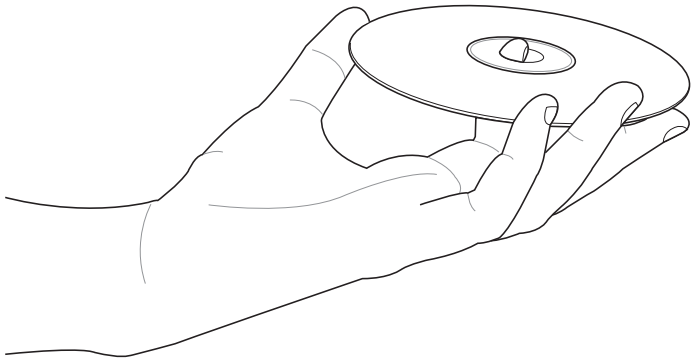
## Cleaning a disc

Spray the disc with compressed air for about five seconds to get rid of the dust on a disc.



## Handling a disc

Hold a disc by the edges. Do not touch the disc surface.



# Technical information

## Environmental specifications

| | | |
|---|---|---|
| **Temperature** | Operation:<br>Storage: | +5°C to +45°C<br>- 20°C to +60°C |
| **Humidity** | Operation:<br>Storage: | 5% to 85% non-condensing<br>5% to 90% non-condensing |
| **Vibration** | Operation:<br>Storage: | 0.2G peak at 10 ~ 300 Hz<br>1.5G peak at 10 ~ 300 Hz |
| **Impact** | Non-operation:<br><br><br>Packaged: | Less than 50G – no damage<br>(at 11ms/half sine wave,<br>3 shock/each side)<br>60 cm high – no damage<br>(1 corner, 3 edges, 6 surfaces) |
| **Acoustic** | Sound Power: | Less than 52 dB(A) |
| **Reliability** | MTBF:<br>ODC (Read):<br>ODC (Write): | 60,000 power on hours<br>20% of power on time<br>2% of power on time |
| **Mean Time To Repair (MTTR)** | | 30 minutes |

* ODC - Operating Duty Cycle

## Electrical and Audio Specifications

| | | | |
|---|---|---|---|
| **Power Source** | Voltage<br>Tolerance<br>Ripple | +5V DC<br>+/- 5%<br>100m Vpp | +12V DC<br>+/- 10%<br>200m Vpp |
| **IO Terminal** | Power connector<br>ATAPI terminal<br>Audio out | 4-pin +5V, +12V<br>40-pin<br>4-pin (analog) | |
| **Audio** | No. of channels<br>S/N ratio<br>Output: Line Out | 2 (stereo)<br>70 dB<br>0.75 +/- 0.1 V rms | |

# DVD region codes

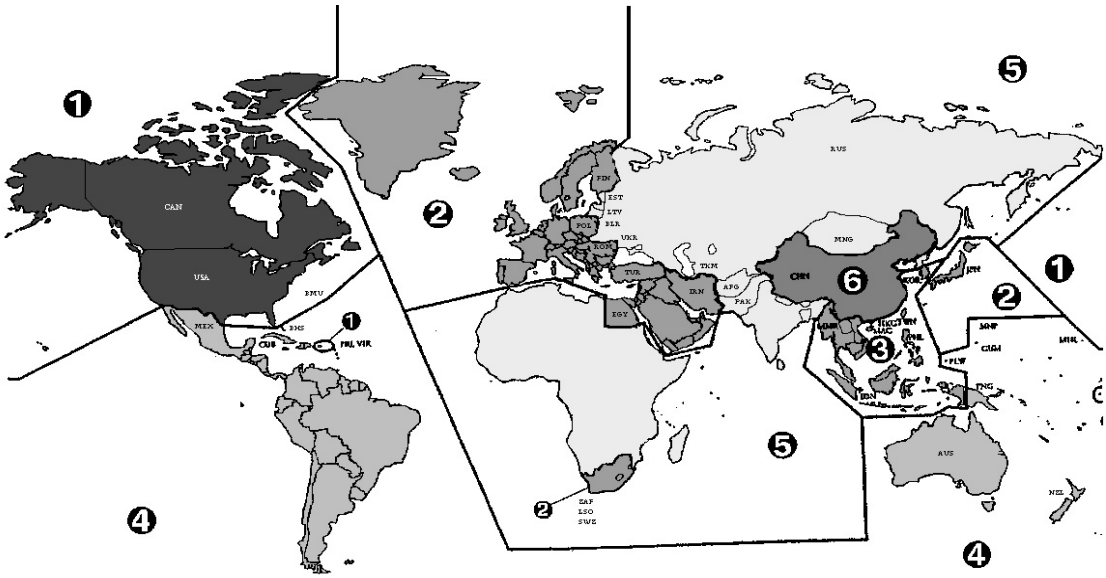
DVDs and DVD players are regionally coded to protect the DVD industry from piracy and unfair promotions. For example, a DVD encoded for Region 1 may only be played on a Region 1 DVD-ROM or DVD player. Regional codes on DVDs are optional. All DVD players can play DVDs with no specified region code.

Follow the instructions to play a regionally-coded DVD on the drive.

1. Check the region code of the DVD, then insert the disc into the drive.
2. When the DVD playback prompts you to enter your country/location, select a country/location within the region code of the DVD. Refer to the map and table below.

   **You are only allowed to change your country/location up to five times. This limitation makes the drive adaptable for use in many regions while maintaining compliance with RPC-II regulations.**

The ability to switch from one region to another is not an ongoing feature. Set the drive to your local region to avoid incorrect setting.




| Region Code | Area |
|---|---|
| 1 | U.S., U.S. Territories, Canada |
| 2 | Europe, Middle East, Japan, Egypt, S. Africa, Greenland |
| 3 | South Eastern Asia, Taiwan, Hong Kong, Korea |
| 4 | Australia, New Zealand, Latin America, Pacific Islands |
| 5 | Russia, Eastern Europe, India, Africa, North Korea |
| 6 | China |

# DRW-0804P

DVD±R/RW 燒錄機
支援雙規格

使用手冊

# 給使用者的說明

本產品的所有部分，包括配件與軟體等，其所有權歸華碩電腦公司（以下簡稱華碩）所有，未經華碩公司許可，不得任意地仿製、拷貝、謄抄或轉譯。本使用手冊沒有任何型式的擔保、立場表達或其它暗示。若有任何因本使用手冊或其所提到之產品的所有資訊，所引起直接或間接的資料流失、利益損失或事業終止，華碩及其所屬員工恕不為其擔負任何責任。除此之外，本使用手冊所提到的產品規格及資訊僅供參考，內容亦會隨時更新，恕不另行通知。本使用手冊的所有部分，包括硬體及軟體，若有任何錯誤，華碩沒有義務為其擔負任何責任。

本使用手冊中談論到的產品及公司名稱僅做識別之用，這些名稱可能是屬於其他公司的註冊商標或是版權。

本產品驅動程式改變，使用手冊都會隨之更新。更新的詳細說明請您到華碩的網站瀏覽或是直接與華碩公司聯絡。

**版權所有・不得翻印 ©2004華碩電腦**

產品名稱：華碩 DRW-0804P 燒錄機

手冊版本：V1  T1533

發表日期：2004 年 2 月

# 華碩的聯絡資訊

## 華碩電腦公司 ASUSTeK COMPUTER INC.(亞太地區)

*市場訊息*

地址 ：台灣臺北市北投區立德路150號
電話 ：886-2-2894-3447

*技術支援*

免費服務電話 ：0800-093-456
傳真 ：886-2-2890-7698
全球資訊網 ：http://taiwan.asus.com.tw/

## ASUS COMPUTER INTERNATIONAL (美國)

*市場訊息*

地址 ：44370 Nobel Drive, Fremont, CA 94538, USA
電話 ：+1-502-995-0883
傳真 ：+1-502-933-8713
電子郵件 ：tmdl@asus.com

*技術支援*

電話 ：+1-502-995-0883
傳真 ：+1-502-933-8713
電子郵件 ：tsd@asus.com
全球資訊網 ：http://www.asus.com

## ASUS COMPUTER GmbH (歐洲/奧地利)

*市場訊息*

地址 ：Harkort Str. 25, D-40880 Ratingen, Germany
電話 ：+49-2102-9599-0
傳真 ：+49-2102-9599-11
線上連絡 ：http://www.asuscom.de/sales
電子郵件 Email ：sales@asuscom.de（僅回答市場相關事務的問題）

*技術支援*

電話 ：49-2102-9599-0 ... 主機板/其它產品
：49-2102-9599-10 ... 筆記型電腦
傳真 ：49-2102-9599-11
線上支援 ：http://www.asuscom.de/support（提供線上支援）
全球資訊網 ：http://www.asuscom.de

## ASUSTek Middle East & North Africa (中東 & 北非)

地址 ：P.O. Box 64133 , Dubai, U.A.E.
電話 ：+9714-2831774
傳真 ：+9714-2831775
全球資訊網 ：www.asusarabia.com

# 歡迎使用華碩產品

**感謝您購買華碩 DRW-0804P 燒錄機！**

為了確保燒錄機正確的安裝與使用方式，請先閱讀本手冊的操作指南以及其他重要資訊。

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# 關於本使用手冊

## 提示符號說明

以下為本手冊所使用到的各式符號說明：

**警告/危險**：因不當的動作可能會對人體產生傷害或危險。

**小心**：因不當的動作可能會對產品及零件造成損害。

**注意**：重點提示，重要的注意事項。

**說明**：小祕訣，名詞解釋，或是進一步的資訊說明。`

## 哪裡可以找到更多的產品資訊

您可以經由下面所提供的兩個管道來獲得您所使用的華碩產品資訊以及軟硬體的最新資訊等。

1. **華碩網站**
   您可以到 http://taiwan.asus.com.tw 華碩電腦全球資訊網站取得所有關於華碩軟硬體產品的各項資訊。
2. **其他文件**
   在您的產品包裝盒中除了本手冊所列舉的標準配件之外，也有可能會夾帶有其他的文件，譬如經銷商所附的產品保證單據等。

## 代理商查詢

本產品在台灣透過聯強國際與精技電腦兩家代理商出貨，請您參考下列範例圖示找出產品的 10 碼式序號標籤（下圖僅供參考），再至 http://taiwan.asus.com.tw/support/eService/querydist_tw.aspx 查詢您產品的代理商，以方便您有產品諮詢或送修需求時，可尋求代理商服務。（本項服務僅支援台灣使用者）

聯強服務電話：02-25062558　　精技服務電話：0800089558

# 安全資訊

在您安裝和使用華碩 DRW-0804P 燒錄機之前，請先瀏覽並且了解下列圖示的預防措施！

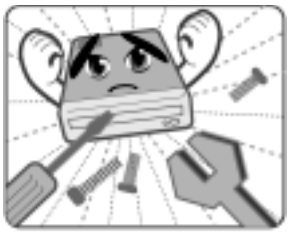
## 燒錄機安裝注意事項

不要將燒錄機置放在任何容易搖晃或容易產生震動的地方。

不要將燒錄機置放在陽光直接照射到的地方、溼度高的地方或者任何潮溼的地方。

不要將燒錄機置放在磁性物品附近，像電視、收音機等會散發電波干擾的電子產品皆會影響燒錄機的運作效能。

不要擅自拆解或者企圖自行維修燒錄機。打開機殼有可能導致輻射外洩而發生危險。



## 使用燒錄機

- 請勿將燒錄機從寒冷的環境搬移到溫暖或燥熱的環境。劇烈的溫度改變會損及燒錄機的精密零件。
- 若要搬移燒錄機或者從電腦主機中移出燒錄機，請先確認燒錄機內的光碟片已經先行取出。
- 請避免讓任何液體浸沾到燒錄機或者讓小型金屬物品掉落到燒錄機中。如果有這種情況發生，請聯絡您的經銷商尋求解決之道。
- 不要使用任何易揮發性的溶劑來清潔燒錄機。如果在使用溶劑時不小心噴灑到燒錄機，請使用乾淨的布將燒錄機擦拭乾淨。此外，您也可以在擦拭沾到溶劑的燒錄機時加一點中性清潔劑，藉此來稀釋溶劑的濃度以便能夠更容易地得到清除效果。
- 請勿在燒錄機進行讀取或寫入動作的時候中斷電源。
- 請勿將已損毀或有裂痕的光碟片放入燒錄機內讀寫，劣質的碟片不但會損傷燒錄機，也可能造成您身體的傷害。
- 由於燒錄機讀取光碟片時有一定的工作溫度範圍，因此不要馬上將從寒冷環境中取得的光碟片放入燒錄機中，特別是在冬天。此時請先等待光碟片溫度回復到室溫時再使用。

# 產品包裝盒

在打開您的華碩 DRW-0804P 燒錄機包裝盒之後，請即刻檢查您的包裝盒中的各項物品是否與下表的清單符合，並且檢查物品外觀上是否有損壞。若有物品遺漏或損壞的情形，請馬上聯絡您的經銷商。（以下為零售禮盒包裝）

- 華碩 DRW-0804P 燒錄機
- IDE 裝置連接排線
- 固定用螺絲套件
- 音源線
- 緊急退出孔插針與使用說明
- 中英文使用手冊
- 多國語言快速安裝指南
- 燒錄軟體光碟

## 產品特色

華碩 DRW-0804P 是一款支援 DVD-R/RW 以及 DVD+R/RW 格式，並可使用絕大部分的 DVD 光碟的全功能燒錄機。此款燒錄機相容於 ATAPI 規格，並且在 DVD 燒錄的方式上引進了許多革新性的技術。

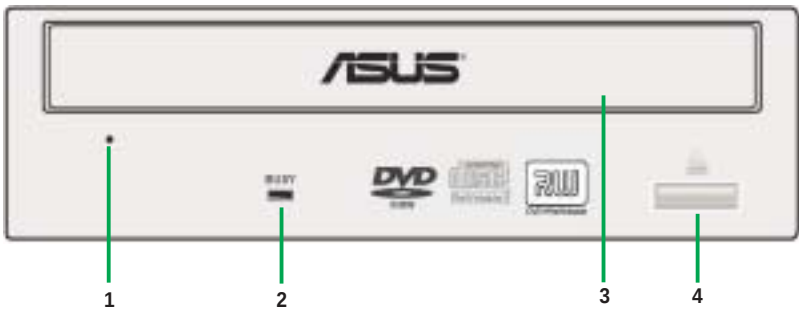
- *FlextraSpeed™* 智慧型燒錄速度調整技術
- *FlextraLink™* 廢片終結燒錄技術
- DDSSII 第二代雙動態懸吊系統
- 讀寫頭 LCT（Liquid Crystal Tilt Technology）技術
- 支援讀取 / 寫入 DVD-R, DVD-RW, DVD+R,DVD+RW,CD-R,CD-RW，及讀取 DVD-ROM, CD-ROM 等主流規格
- 直立或水平安裝皆可
- 支援 DAO, TAO, SAO, Packet Write
- 支援多元作業系統：Windows 98SE/ME/ 2000/NT/XP

# 產品資訊

## 燒錄機規格

| | | |
|---|---|---|
| • 寫入速度 | DVD+R | 8X, 6X, 4X, 2.4X |
| | DVD+RW | 4X, 2.4X |
| | DVD-R | 8X, 6X, 4X, 2X, 1X |
| | DVD-RW | 4X, 2X, 1X |
| | CD-R | 24X, 16X, 8X, 4X |
| | CD-RW | 24X, 16X, 10X, 4X |
| • 最大讀取速度 | DVD-ROM | 12X |
| | CD-ROM | 40X |
| • 使用介面 | 加強型 IDE 匯流排介面 / ATAPI | |
| • 緩衝記憶體大小 | 2 MB | |
| • 平均資料存取時間 | DVD-ROM：140 ms / CD-ROM：130 ms | |
| • 適用的光碟片型式 | DVD 單層 / 雙層 , DVD+R , DVD+RW,<br>DVD-R<br>DVD-RW, CD-ROM Mode1<br>CD-ROM/XA Mode2 (form 1,form 2)<br>Photo CD（單次及多次寫入）<br>CD-DA, CD-Extra, DVD-RAM, CD-Text,<br>CD-R,CD-RW | |
| • 寫入模式 | DVD+R：Incremental Recording,<br>DVD+RW：Random Recording<br>DVD-R：DAO, Incremental Recording,<br>Multi-Border Recording<br>DVD-RW：Restricted Overwriting<br>CD-R/RW：DAO, TAO, SAO, Packet Write | |
| • 支援作業系統 | Windows 98 SE/ME/NT/2000/XP | |
| • 安裝方式 | 直立或水平皆可 | |
| • 外觀尺寸（寬x高x深） | 148 x 42.3 x 198 mm | |
| • 重量 | 1100 公克 （2.42 英磅） | |

## 正面外觀




1. **緊急退片孔**

   為避免您無法啓動您的電腦卻又得取出光碟片的情況下，您可以利用約五公分長的針狀物（如迴紋針等），伸入燒錄機面板上的緊急退片孔中並稍加施力迫使燒錄機中的齒輪裝置動作而令托盤退出燒錄機。取出光碟片後再輕輕地將托盤推回燒錄機中。請參閱 緊急退片孔 小節來得知如何使用。

   注意！ 此舉只用於緊急情況時，正常使用狀況下請勿使用此方法。

2. **讀寫動作指示燈**

   當這個指示燈亮 **綠燈** 時表示正在讀取或寫入光碟片中的資料。

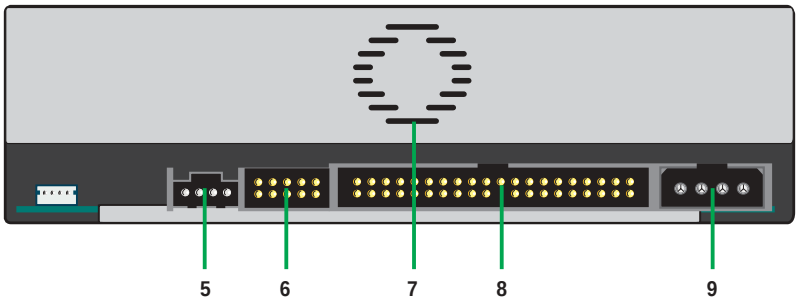
3. **光碟片托盤**

   光碟片托盤用來置放欲讀取或寫入的光碟片。請按下 **開啓/關閉** 按鍵以退出光碟片托盤，然後將 CD 或 DVD 光碟片放入托盤中，注意有標籤的那一面朝上，再按一下 **開啓/關閉** 按鍵將托盤收回。

4. **開啓/關閉 按鍵**

   按下 **開啓/關閉** 按鍵即可退出光碟片托盤。要關閉光碟片托盤只需再按一次 **開啓/關閉** 按鍵或者輕輕地推動托盤的前緣，直到它自動退回燒錄機中為止。使用 **開啓/關閉** 按鍵來置入或退出光碟片是標準的動作，同時也可以避免因直接以手推動托盤使之收回燒錄機所會產生的不良影響，比如導致托盤老化後易脫軌的情形。

## 背面外觀




5. **類比音效輸出插座**
   這個插座用來供類比音源線連接用。

| Pin | 名稱 | 功能 |
|---|---|---|
| 1 | L | 左聲道音效輸出 |
| 2 & 3 | G | 接地 |
| 4 | R | 右聲道音效輸出 |

6. **使用模式跳線帽選擇區**
   選擇燒錄機的使用模式，分別有 Master（MA）模式、Slave（SL）模式以及使用排線接頭來決定的 Cable Select（CS）模式。預設值為 Master模式。

| Pin | 名稱 | 開關 | 功能 |
|---|---|---|---|
| 1 | MA | ON | 使用 master 模式 |
| 2 | SL | ON | 使用 slave 模式 |
| 3 | CS | ON | 使用 cable select 模式 |
| 4-5 | | | 備用 |

7. **散熱孔**
   這個散熱孔用來將內部產生的熱量流通至機體之外，以使燒錄機不至因為過熱而發生損壞。請注意避免將系統內的組件阻擋住此一散熱孔。

8. **IDE 介面排線插座**
   請依據您的配置方式將燒錄機以 40 腳位的 IDE 裝置排線連接到主機板上的 Primary IDE 或是 Secondary IDE 插座。

9. **電源插座**
   將電腦電源供應器的其中一個電源線連接到這個直流電源插座。

後端面板最左邊的針腳為工廠測試用的針腳，請勿將跳線帽套至此跳線針腳中。

# 安裝

## 系統要求

在您安裝/使用燒錄機之前，請確認您的電腦系統符合下列需求：

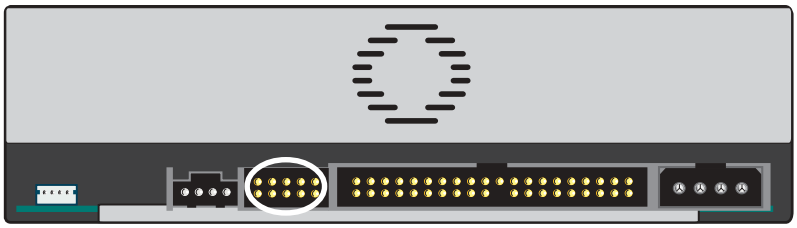
- 使用相容於 IBM 個人電腦規格的 Pentium III 700MHz 或 Celeron 700MHz 或 AMD Duron 850MHz 或更高處理器時脈的個人電腦
- 使用 Windows 98SE/ME/2000/NT/XP作業系統
- 最少需要 64MB 系統記憶體，我們建議您擴充至 128MB
- 電腦主機必須有一個空置的 5.25 英吋裝置槽安裝燒錄機
- 硬碟必須保有至少 100MB 或更多的空間
  平均搜尋時間：20ms 或更短
  傳輸率：每秒 2 MB 或更多

1. 為避免發生 Buffer Underrun 的錯誤，請勿使用具有熱校正（Thermal Calibration）功能的硬碟機。
2. 請勿將已損毀或有裂痕的光碟片放入燒錄機內讀寫，劣質的碟片不但會損傷燒錄機，也可能造成您身體的傷害。

## 設定燒錄機使用模式

請在您將燒錄機安裝到主機之前，先以跳線帽選擇您所要用的使用模式。使用模式分為三種，使用時機與選擇方式分述於下：

請務必注意要正確地將跳線帽套至跳線針腳中。如果套錯方向，那麼有可能會對燒錄機造成無法挽回的損害！



跳線區

### Master 模式

將跳線帽套在標示有「MA」字樣的跳線區，此時燒錄機的使用模式即變更為 Master。

電腦主機板一般最多可以連接四顆 IDE 裝置，若燒錄機設在此模式，那麼您可以將之接在 Secondary Master。

### Slave 模式

將跳線帽套在標示有「SL」字樣的跳線區，此時燒錄機的使用模式即變更為 Slave。

電腦主機板一般最多可以連接四顆 IDE 裝置，若燒錄機設在此模式，那麼您可以將之接在 Primary Slave 或者 Secondary Slave。

### Cable Select 模式

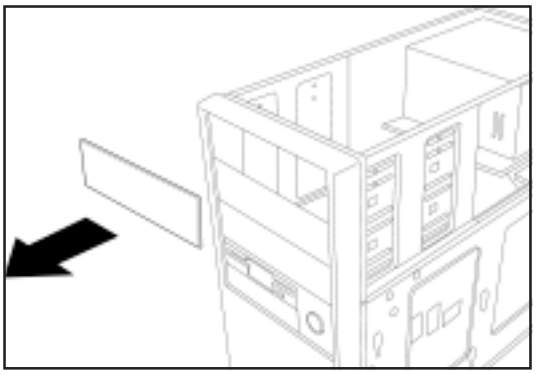
您的電腦須支援 Cable Select（CSEL）signal。將跳線帽套在標示有「CS」字樣的跳線區，此時燒錄機的使用模式即變更為以 UltraDMA/66/100 IDE 裝置排線接頭來決定所屬模式 Cable Select。

## 安裝燒錄機

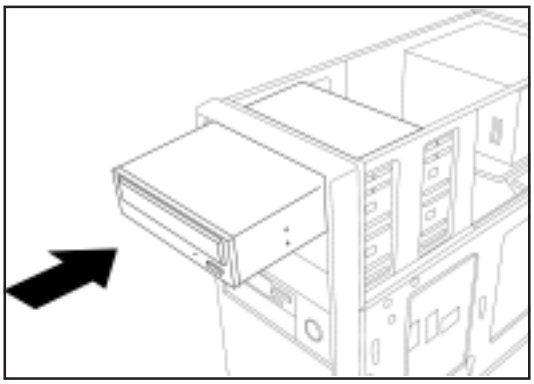
請依照下面步驟指示將燒錄機安裝至電腦主機中：

請參考您的電腦主機機殼使用說明以了解其機蓋開啓方式以及如何安裝硬體裝置。

1. 將 5.25 英吋裝置槽的擋板移開。

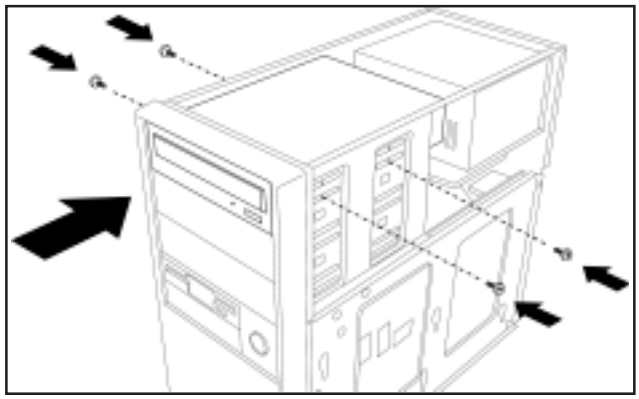


2. 小心地放入燒錄機，並且慢慢推入燒錄機直到它已經穩固地置放在裝置槽中。此時燒錄機兩側的固定用螺絲孔應該與裝置槽的預留孔位相符以方便螺絲鎖上。



3. 最後再將燒錄機與主機裝置槽的兩側共四顆螺絲鎖上。

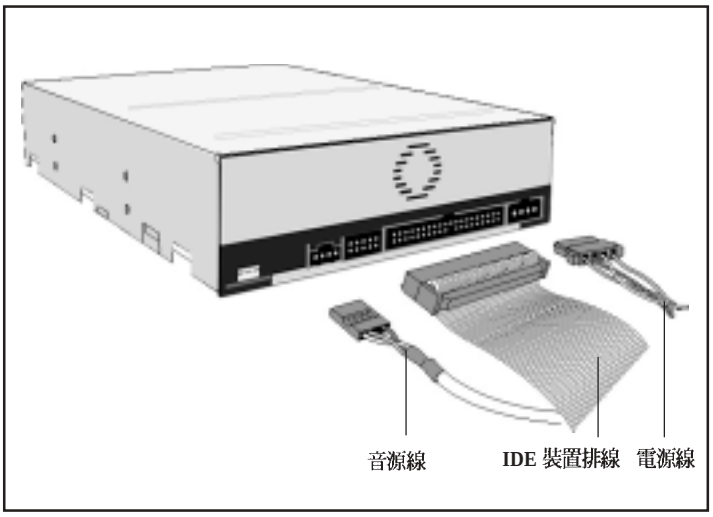
請依照您所使用的主機機殼大小來決定是否在燒錄機未裝入裝置槽之前先連接燒錄機所有的排線。至於排線的連接方式，請參考下一節「連接燒錄機各類排線」的說明。



## 連接燒錄機各類排線

1. 從電腦的電源供應器取一條電源線連接到燒錄機的電源插座。
2. 依照您所設定的 MA/SL/CS 模式，連接 IDE 裝置排線到主機板上的 Primary IDE 或 Secondary IDE 插座。同時要注意排線以紅色塗裝的那一側即為第一腳的位置。
3. 若您有安裝音效卡或者主機板有內建音效功能，那麼您就將音源線的一端連接到燒錄機的音源插座，另一端則連接到音效卡或者主機板內建音效的插座。

所有的排線均經過特殊的設計，僅能以某一個方向置入插座。若您無法完全將排線插頭置入插座內，請勿用力將之插入！您可以反轉插頭再試試看。

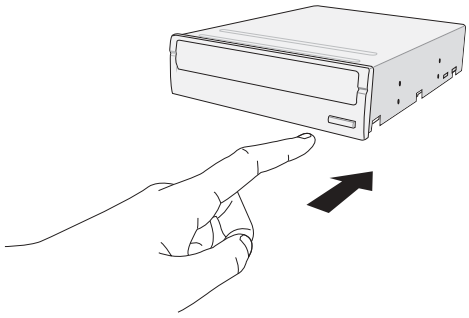



請根據您的電腦使用手冊中的說明來打開/放回電腦主機機殼。

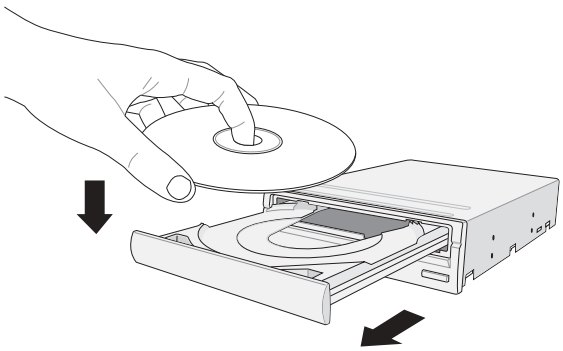
# 燒錄機的使用

## 放入光碟片

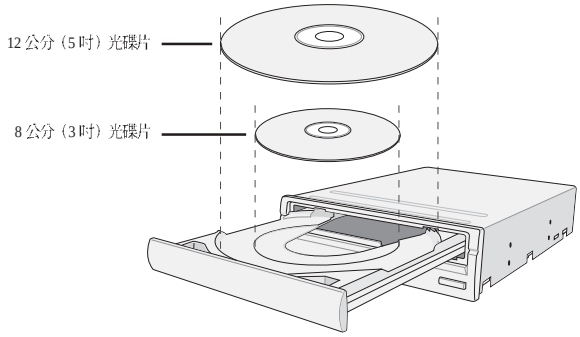
1. 按下燒錄機面板上的「開啓/關閉」按鍵將托盤推出。



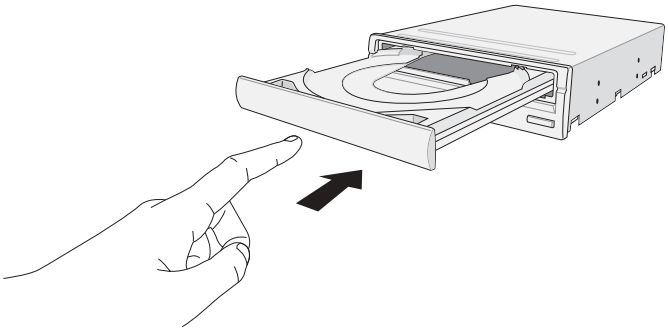
2. 將光碟片印有標籤識別的那一面朝上放入燒錄機的托盤中。



如果您使用的是 12cm 的光碟片，請將之置放在托盤外圈的溝槽中。溝槽有助於固定光碟片。而如果您是使用 8cm 的光碟片，那麼請將之置放在內圈較小的溝槽中。




3. 按下燒錄機面板上的「開啓/關閉」按鍵再次將托盤送回，您也可以輕推托盤使之退回燒錄機中。



## 退出光碟片

1. 按下燒錄機面板上的「開啓/關閉」按鍵將托盤推出。
2. 從托盤取出光碟片。
3. 按下燒錄機面板上的「開啓/關閉」按鍵再次將托盤送回，您也可以輕推托盤使之退回燒錄機中。

## 緊急退片孔

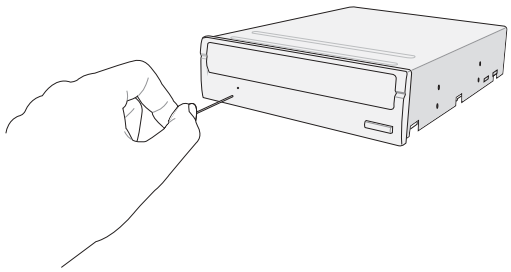
位在燒錄機面板上的緊急退片孔可以讓您在遇到下面幾種情況中以手動的方式將光碟片取出：

- 電腦電源遭到不明原因中斷
- 燒錄機發生故障

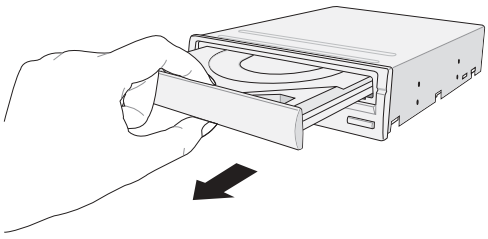
請依照下面步驟利用緊急退片孔將光碟片由托盤中取出：

請確認您無法利用面板上的開啓托盤鈕退出光碟時，才使用緊急退片孔將光碟片由托盤中取出。且在使用緊急退片孔之前請確認是否已關閉電源。

1. 請將本機所附的緊急退出孔插針輕輕地置入孔中直至托盤跳出。



2. 接著慢慢地將托盤拉出直至可以取出光碟片，最後再慢慢推回托盤。



請在緊急退出孔插針已確實將托盤鬆托之後再將托盤輕輕拉出，切勿強行將托盤用力拉出，以免造成損壞。

# 光碟片的使用

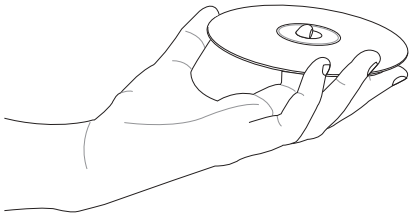
以下為使用燒錄機時須注意的幾個事項，它將幫助您避免損壞光碟片及燒錄機：

## 清潔光碟片

您可以使用壓縮空氣罐朝著光碟片表面噴灑約五秒鐘的時間即可除去表面灰塵。

## 拿取光碟片

拿取光碟片時僅需輕握住光碟片外緣，不要直接觸摸光碟片表面。



# 技術資訊

## 使用環境規格

| | |
|---|---|
| 溫度 | 工作溫度：+ 5°C 至 +45°C<br>儲存溫度：-20°C 至 +60°C |
| 濕度 | 工作濕度：5% 至 85% （非壓縮）<br>儲存濕度：5% 至 90%（非壓縮） |
| 震動容許值 | 工作中：最高 0.2G（at 10 ~ 300 Hz)<br>儲存時：最高 1.5G（at 10 ~ 300 Hz) |
| 碰撞容許值 | 未操作：低於50G（at 11ms/half sine wave,3 shock/each side）<br>掉落碰擊：60公分高（1 角,3 菱,6面) |
| 音效輸出規格 | 模式：少於 52 dB (A) |
| 平均故障間隔時間（**MTBF，Mean Time Between Failure)** | 60,000 Power On Hours<br><br>ODC 20% of Power On Time（讀取動作）<br>ODC 2% of Power On Time（寫入動作） |
| 平均修復時間（**MTTR，Mean Time To Repair)** | 30 分鐘 |

***ODC - Operating Duty Cycle**

## 電氣及音效規格

| | | | |
|---|---|---|---|
| 使用電源 | 電壓<br>容許值<br>Ripple | +5V DC<br>± 5%<br>100m Vpp | +12V DC<br>± 10%<br>200m Vpp |
| **I/O 接頭** | 電源接頭<br>ATAPI 接針<br>音源輸出 | 4-pin +5V, +12V<br>40-pin<br>4-pin (類比) | |
| 音效 | 聲道<br>訊噪比（S/N ratio）<br>輸出 | 2（立體聲）<br>70 db<br>line out：0.75+/-0.1V rms (typical) | |

# 附錄

## DVD 影片區域碼的分區規劃

為了防止 DVD 光碟盜版問題，全世界將 DVD 光碟及機器分為六大區域，如下表所示。請依照您的所在地點設定正確的區域碼。此燒錄機可讓您更改 DVD 區域碼的設定，以符合世界各地的播放標準，但請注意您一共只能更改五次（包含第一次的設定）。當您第五次更改區域碼時，此設定將成為本機器的永久設定，您將無法再做任何更改。

在一般 DVD 光碟或外盒上，會標示此光碟限用區域，若標示第 3 區，便代表此光碟限用於位於第 3 區的使用者，而標示 ALL 或全區的光碟，則代表無區域限制，您可於各區使用或播放此光碟。

在您使用或播放 DVD 光碟時，您所使用的相關程式（例如：影音播放程式）將會要求您輸入此機器所使用的區域碼，請依照各相關軟體指示進行區域碼的設定。

| 區域碼 | 地區 |
|---|---|
| 第 1 區 | 北美、加拿大 |
| 第 2 區 | 歐洲、中東、日本、南非 |
| 第 3 區 | 台灣、東南亞、香港、韓國 |
| 第 4 區 | 澳洲、紐西蘭、拉丁美洲 |
| 第 5 區 | 非洲、俄羅斯、印度、巴基斯坦 |
| 第 6 區 | 中國大陸 |